**VAT zero rate in basic needs is a policy tool used widely across countries to support low-income households.** The reduced rate aims to protect low-income people by lowering final consumer prices. A common criticism is that high-income households who do not need it also receive the benefits of this policy, which may be costly for society. Zero VAT rates and exemptions exist amid Governments’ pressing issues to raise revenue to finance health, education, infrastructure, and climate change-related investments.

**This analysis aims to understand the welfare implications of the zero VAT and cash transfer policies.** We do this by framing the political economy surrounding these policies with the efficiency equity trade-off derived from the standard consumer theory. Governments affect welfare when removing the zero VAT rate. Still, they also have additional resources to improve equity in the economy.1 We estimate the Marginal Value of Public Funds (MVPF) for the zero VAT rate and the cash transfer program. The methodology uses household data from Mexico and estimates a demand system of a model with two types of households: low and high-income. We then investigate under what circumstances the MVPF of cash transfer becomes larger than the MVPF of the zero VAT rate.2

**The *status quo* consists of a standard 16 percent VAT on most goods and services and zero rate on essentials -food and medicines- to support lower-income families.** For the estimation of the demand system, we use the Mexican Income-Expenditure Household Survey (ENIGH) of 2022. We recover the indirect utility functions from the demand system model, estimate the elasticities (Table 1) and derive the compensating variation that reflects the amount a social planner would need to compensate a consumer to neutralize the welfare loss from the introduction of the tax. The model assumes a complete passthrough of VAT to consumer prices.3

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| --- | --- |
| Table 1. Estimates of the own-price elasticities | Table 2 Monetary metrics of welfare change and potential tax collection |
| |  |  |  | | --- | --- | --- | |  | Low-income HH | High-income HH | | Food | -0.749 | -0.694 | | Beverages | -0.214 | -0.399 | | Alcohol &Tobacco | -0.393 | -0.556 | | Medicines | -0.343 | -0.379 | | Other non-durable goods & services | -0.791 | -0.781 |       Note: The above elasticity estimates are based on the Quadratic Almost Ideal Demand System model that allows for  demographics (size of the household, number of children, gender of the head of the household). See Annex for details. | |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | CV in pesos (ΔW) | CV (% exp.) | Tax collection (ΔE) | ΔW /  ΔE | | Low-income | 1,133.5 | 5.1 | 926 | 1.2 | | High-income | 1,901.8 | 3.4 | 1,370 | 1.4 |     Note: Units are average quarterly MX pesos. Column 2 presents the compensating variation as percentage of household consumption. Tax collection is obtained with the adjusted demands after the simulated increase in VAT in food. |

**A welfare improving cash-transfer is possible given social planner’s equity considerations.** The critical parameters for the simulation exercise are presented in Table 2.Under the alternative policy of taxing food items with the VAT general rate, the total welfare change, measured by the compensating variation, is equal to MX 3,035, and the potential tax collection of this policy is equal to MX 2,296, both expressed in quarterly current consumption. The deadweight loss of the society, measured by the difference of compensating variation and tax collection, is equal to MX 7394. The cash transfer program and the distributional weights play the role of incorporating the equity dimension that has the potential to improve societal welfare compared to the status quo.

The cash transfer parameters

(𝑋1,𝑋2) X1,X2

and the distributional weights (

𝜇1, 𝜇2)𝜇1, 𝜇2)

that satisfy the following conditions:

𝑋1+𝑋2=2,296 X1+X2=2,296

𝜇1𝑋1926+𝜇2𝑋21370≥𝜇11133926+𝜇219021370𝜇1X1926+𝜇2X21370≥𝜇11133926+𝜇219021370

𝜇1+𝜇2=1𝜇1+𝜇2=1

guarantee that moving from zero rate to the VAT general rate is a welfare enhancing policy. In Figure 3, we observe that for a given welfare loss generated by the general VAT rate, the combination of cash transfer to poor households and the distributional weight that make the MVPF of this policy larger than the MVPF of the status quo. For example, if the distributional weight of the low-income household is 1, the cash transfer needed to improve welfare would be any amount larger than his welfare loses (MX 1,133.5). The lower the distributional weight, the higher the cash transfer, and vice versa. With larger efficiency loses, which would shift the blue line to the right, it would be necessary both a larger transfer and weight to low-income households to remove the zero VAT rate and increase welfare of the society.

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| **Figure 3.** Set of cash transfer and distributional weight that make equity considerations offset efficiency loses. |
| A graph with a blue line  Description automatically generated, Picture |

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